# 03-17 SEQ LIST.ST25 SEQUENCE LISTING

<110>	Sanofi Pasteur	
<120>	Modified KSA and Uses Thereof	
<130>	API-03-17-PCT-US	
<140> <141>	10/584,378 2006-06-22	
<150> <151>	PCT/US04/42980 2004-12-23	
<150> <151>	60/532,205 2003-12-23	
<160>	22	
<170>	PatentIn version 3.3	
<210> <211> <212> <213>	1 16 PRT Homo sapiens	
<400>	1	
Ser Ar 1	g Arg His His Cys Arg Ser Lys Ala Lys Arg Ser Arg His His 5 10 15	
<210> <211> <212> <213>	2 8210 DNA ALVAC	
<400>	2	60
	regt ctcgcgcgtt tcggtgatga cggtgaaaac ctctgacaca tgcagctccc	120
	ggtc acagcttgtc tgtaagcgga tgccgggagc agacaagccc gtcagggcgc	180
	gggt gttggcgggt gtcggggctg gcttaactat gcggcatcag agcagattgt	240
	agtg caccatatgc ggtgtgaaat accgcacaga tgcgtaagga gaaaataccg	300
	gcgc cattcgccat tcaggctgcg caactgttgg gaagggcgat cggtgcgggc gcta ttacgccagc tggcgaaagg gggatgtgct gcaaggcgat taagttgggt	360
	aggg ttttcccagt cacgacgttg taaaacgacg gccagtgcca agcttggctg	420
_	ttct aaactaggaa tagatgaaat tatgtgcaaa ggagatacct ttagatatgg	480
	ttta tttggttttt cataatcata atctaacaac attttcacta tactatacct	540
_	acaa gtcgccatta gtagtataga cttatacttt gtaaccatag tatactttag	600
		660
	atct tcttcatcta aaacagattt acaacaataa tcatcgtcgt catcttcatc	720
	acgg tatagagcgt taatctccat tgtaaaatat actaacgcgt tgctcatgat	780
cacaya	Page 1	, 00

gtacttttt	tcattattta	gaaattatgc	attttagatc	tttataagcg	gccgtgatta	840
actagtcata	aaaacccggg	atcgattcta	gactcgagat	aaaaactata	tcagagcaac	900
cccaaccagc	actccaatca	tgatgccgac	agtggcccca	gctgagagac	caggagaagt	960
tccagatgca	gagactgtga	tgctcttgac	tatggaatta	ttgcggccag	tagccaagtt	1020
agagacaaaa	caggcatagg	tcccgttatt	atttggcgtg	attttggcga	taaagagaac	1080
ttgtgtgtgt	tgctgcggta	tcccattgat	acgccaagaa	tactgcgggg	atgggttaga	1140
ggccgagtgg	caggagaggt	tgaggtccgc	tcccgaaagg	taagacgagt	ctggggggga	1200
aatgatgggg	gtgtccggcc	catagaggac	atccagggtg	actgggtcac	tgcggtttgc	1260
actcactgag	ttctggattc	cacatacata	ggctcttgcg	tcatttcttg	tgacattgaa	1320
tagagtgagg	gtcctgttgc	cattggacag	ctgcagcctg	ggactgactg	ggaggctctg	1380
accatttacc	caccacaggt	aggttgtgtt	ctgagcctca	ggttcacagg	tgaaggccac	1440
agcatccttg	tcctccacgg	gtttggagtt	gttgctggag	atggagggct	tgggcagctc	1500
cgcggaaaca	gttattgttt	taactgtagt	cctgctgtga	ccactggctg	agttattggc	1560
ctggcaagta	tagagtccgc	tgttcttctc	agttatgttg	cttataaata	actcttgagt	1620
atgctgctga	atgtttccat	caatcagcca	ggagtactgt	gcaggggggt	tggatgctgc	1680
atggcaagaa	aggctcaagt	tcacgccggg	acggtagtag	gtgtatgatg	gagatatagt	1740
tgggtcgtct	gggccataca	aaacattaag	gataacaggg	tcggagtgat	caacggataa	1800
ttcattctga	atgccacact	cataaggtcc	tacatcattg	cgagtaacgg	acaggagtgt	1860
caatgtgcgg	ttatcattag	acaactgcaa	gcgtgggcta	accggcaaac	tttggttatt	1920
gacccaccat	aaataagtgg	tattttgaat	ctctggctca	caagttaatg	caactgcgtc	1980
ctcatcctca	actgggttag	aattgttact	agttatgaat	ggttttggtg	gctcatacac	2040
ggtaatcgtc	gtcacggttg	tgcggttgag	tccggtgtcg	ctattgtgag	cttggcacgt	2100
gtaggatcca	ctattgttca	cggtaatatt	gggaatgaac	agttcctggg	tggactgttg	2160
gaaagtgcca	ttgacaaacc	agctgtattg	ggcgggagga	ttgctagcgg	catgacagct	2220
cagattcaga	ttttcccctg	atctatagct	tgtgtttaga	gggctgattg	taggagcatc	2280
gggtccgtaa	agcacgttga	gaatcactga	atcagacctc	ctggcgctga	ctggattttg	2340
ggtttcgcat	ttgtagcttg	ctgtgtcgtt	cctggtcacg	ttaaacaggg	tcagagttct	2400
atttccgttg	ctgagttgga	gtctagggga	cacaggcagg	gactggttgt	tcacccacca	2460
gagatatgtt	gcgtcttgag	tttcgggctc	gcatgtaaaa	gcgacggcat	ctttgtcttc	2520
gacaggctta	ctattattgg	agctaataga	aggcttaggg	agttccgggt	atacccggaa	2580
ctggccagtt	gcttcttcat	tcacaagatc	tgactttatg	acgtgtaggg	tgtagaatcc	2640

		03-17 SEQ L	TST ST25		
tgtgtcattc tggatgatgt				ttatctctcg	2700
accactgtat gcgggccctg	gggtagcttg	ttgagttcct	attacatatc	ctataatttg	2760
acggttgcca tccactcttt	cacctttgta	ccagctgtag	ccaaaaagat	gctggggcag	2820
attgtggaca agtagaagca	cctccttccc	ctctgcgaca	ttgaacggcg	tggattcaat	2880
agtgagcttg gcagtggtgg	gcgggttcca	gaaggttaga	agtgaggctg	tgagcaggag	2940
cctctgccag gggatgcacc	atctgtgggg	aggggccgag	ggagactcca	ttatttatat	3000
tccaaaaaaa aaaaataaaa	tttcaatttt	tgtcgacctg	cagctcgacg	gatccccccg	3060
ggttctttat tctatactta	aaaagtgaaa	ataaatacaa	aggttcttga	gggttgtgtt	3120
aaattgaaag cgagaaataa	tcataaatta	tttcattatc	gcgatatccg	ttaagtttgt	3180
atcgtaatgg aggagccgca	gtcagatcct	agcgtcgagc	cccctctgag	tcaggaaaca	3240
ttttcagacc tatggaaact	acttcctgaa	aacaacgttc	tgtccccctt	gccgtcccaa	3300
gcaatggatg atttgatgct	gtccccggac	gatattgaac	aatggttcac	tgaagaccca	3360
ggtccagatg aagctcccag	aatgccagag	gctgctcccc	ccgtggcccc	tgcaccagca	3420
gctcctacac cggcggcccc	tgcaccagcc	ccctcctggc	ccctgtcatc	ttctgtccct	3480
tcccagaaaa cctaccaggg	cagctacggt	ttccgtctgg	gcttcttgca	ttctgggaca	3540
gccaagtctg tgacttgcac	gtactcccct	gccctcaaca	agatgttttg	ccaactggcc	3600
aagacctgcc ctgtgcagct	gtgggttgat	tccacacccc	cgcccggcac	ccgcgtccgc	3660
gccatggcca tctacaagca	gtcacagcac	atgacggagg	ttgtgaggcg	ctgccccac	3720
catgagcgct gctcagatag	cgatggtctg	gcccctcctc	agcatcttat	ccgagtggaa	3780
ggaaatttgc gtgtggagta	tttggatgac	agaaacactt	ttcgacatag	tgtggtggtg	3840
ccctatgagc cgcctgaggt	tggctctgac	tgtaccacca	tccactacaa	ctacatgtgt	3900
aacagttcct gcatgggcgg	catgaaccgg	aggcccatcc	tcaccatcat	cacactggaa	3960
gactccagtg gtaatctact	gggacggaac	agctttgagg	tgcgtgtttg	tgcctgtcct	4020
gggagagacc ggcgcacaga	ggaagagaat	ctccgcaaga	aaggggagcc	tcaccacgag	4080
ctgccccag ggagcactaa	gcgagcactg	cccaacaaca	ccagctcctc	tccccagcca	4140
aagaagaaac cactggatgg	agaatatttc	acccttcaga	tccgtgggcg	tgagcgcttc	4200
gagatgttcc gagagctgaa	tgaggccttg	gaactcaagg	atgcccaggc	tgggaaggag	4260
ccagggggga gcagggctca	ctccagccac	ctgaagtcca	aaaagggtca	gtctacctcc	4320
cgccataaaa aactcatgtt	caagacagaa	gggcctgact	cagactgaac	gcgttttta	4380
tcccgggctc gagggtaccg	gatccttttt	atagctaatt	agtcacgtac	ctttgagagt	4440
accacttcag ctacctcttt	tgtgtctcag	agtaactttc	tttaatcaat	tccaaaacag	4500
tatatgattt tccatttctt	tcaaagatgt	agtttacatc Page	tgctcctttg 3	ttgaaaagta	4560

gcctgagcac	ttcttttcta	ccatgaatta	cagctggcaa	gatcaatttt	tcccagttct	4620
ggacatttta	tttttttaa	gtagtgtgct	acatatttca	atatttccag	attgtacagc	4680
gatcattaaa	ggagtacgtc	ccatgttatc	cagcaagtca	gtatcagcac	ctttgttcaa	4740
tagaagttta	accattgtta	aatttttatt	tgatacggct	atatgtagag	gagttaaccg	4800
atccgtgttt	gaaatatcta	catccgccga	atgagccaat	agaagtttaa	ccaaattaac	4860
tttgttaagg	taagctgcca	aacacaaagg	agtaaagcct	ccgctgtaaa	gaacattgtt	4920
tacatagtta	ttcttcaaca	gatctttcac	tattttgtag	tcgtctctca	acaccgcatc	4980
atgcagacaa	gaagttgtgc	attcagtaac	tacaggttta	gctccatacc	tcatcaagat	5040
ttttatagcc	tcggtattct	tgaacattac	agccatttca	agaggagatt	gtagagtacc	5100
atattccgtg	ttagggtcga	atccattgtc	caaaaaccta	tttagagatg	cattgtcatt	5160
atccatgata	gcctcacaga	cgtatatgta	agccatcttg	aatgtataat	tttgttgttt	5220
tcaacaaccg	ctcgtgaaca	gcttctatac	tttttcattt	tcttcatgat	taatatagtt	5280
tacggaatat	aagtatacaa	aaagtttata	gtaatctcat	aatatctgaa	acacatacat	5340
aaaacatgga	agaattacac	gatgtcgttg	agataaatgg	ctttttattg	tcatagttta	5400
caaattcgca	gtaatcttca	tcttttacga	atattgcaga	atctgtttta	tccaaccagt	5460
gatttttgta	taatataact	ggtatcctat	cttccgatag	aatgctgtta	tttaacattt	5520
ttgcacctat	taagttacat	ctgtcaaatc	catctttcca	actgacttta	tgtaacgatg	5580
cgaaatagca	tttatcacta	tgtcgtaccc	aattatcatg	acaagattct	cttaaatacg	5640
taatcttatt	atctcttgca	tattcgtaat	agtaattgta	aagagtatac	gataacagta	5700
tagatataca	cgtgatataa	atatttaacc	ccattcctga	gtaaaataat	tacgatatta	5760
catttccttt	tattattttt	atgttttagt	tatttgttag	gttatacaaa	aattatgttt	5820
atttgtgtat	atttaaagcg	tcgttaagaa	taagcttagt	taacatatta	tcgcttaggt	5880
tttgtagtat	ttgaatcctt	tctttaaatg	gattatttt	ccaatgcata	tttatagctt	5940
catccaaagt	ataacattta	acattcagaa	ttgcggccgc	aattcaattc	gtaatcatgg	6000
tcatagctgt	ttcctgtgtg	aaattgttat	ccgctcacaa	ttccacacaa	catacgagcc	6060
ggaagcataa	agtgtaaagc	ctggggtgcc	taatgagtga	gctaactcac	attaattgcg	6120
ttgcgctcac	tgcccgcttt	ccagtcggga	aacctgtcgt	gccagctgca	ttaatgaatc	6180
ggccaacgcg	cggggagagg	cggtttgcgt	attgggcgct	cttccgcttc	ctcgctcact	6240
gactcgctgc	gctcggtcgt	tcggctgcgg	cgagcggtat	cagctcactc	aaaggcggta	6300
atacggttat	ccacagaatc	aggggataac	gcaggaaaga	acatgtgagc	aaaaggccag	6360
caaaaggcca	ggaaccgtaa	aaaggccgcg	ttgctggcgt	ttttccatag	gctccgcccc	6420

cctgacgagc	atcacaaaaa		03-17 SEQ L agtcagaggt		gacaggacta	6480
taaagatacc	aggcgtttcc	ccctggaagc	tccctcgtgc	gctctcctgt	tccgaccctg	6540
ccgcttaccg	gatacctgtc	cgcctttctc	ccttcgggaa	gcgtggcgct	ttctcatagc	6600
tcacgctgta	ggtatctcag	ttcggtgtag	gtcgttcgct	ccaagctggg	ctgtgtgcac	6660
gaaccccccg	ttcagcccga	ccgctgcgcc	ttatccggta	actatcgtct	tgagtccaac	6720
ccggtaagac	acgacttatc	gccactggca	gcagccactg	gtaacaggat	tagcagagcg	6780
aggtatgtag	gcggtgctac	agagttcttg	aagtggtggc	ctaactacgg	ctacactaga	6840
aggacagtat	ttggtatctg	cgctctgctg	aagccagtta	ccttcggaaa	aagagttggt	6900
agctcttgat	ccggcaaaca	aaccaccgct	ggtagcggtg	gttttttgt	ttgcaagcag	6960
cagattacgc	gcagaaaaaa	aggatctcaa	gaagatcctt	tgatcttttc	tacggggtct	7020
gacgctcagt	ggaacgaaaa	ctcacgttaa	gggattttgg	tcatgagatt	atcaaaaagg	7080
atcttcacct	agatcctttt	aaattaaaaa	tgaagtttta	aatcaatcta	aagtatatat	7140
gagtaaactt	ggtctgacag	ttaccaatgc	ttaatcagtg	aggcacctat	ctcagcgatc	7200
tgtctatttc	gttcatccat	agttgcctga	ctccccgtcg	tgtagataac	tacgatacgg	7260
gagggcttac	catctggccc	cagtgctgca	atgataccgc	gagacccacg	ctcaccggct	7320
ccagatttat	cagcaataaa	ccagccagcc	ggaagggccg	agcgcagaag	tggtcctgca	7380
actttatccg	cctccatcca	gtctattaat	tgttgccggg	aagctagagt	aagtagttcg	7440
ccagttaata	gtttgcgcaa	cgttgttgcc	attgctacag	gcatcgtggt	gtcacgctcg	7500
tcgtttggta	tggcttcatt	cagctccggt	tcccaacgat	caaggcgagt	tacatgatcc	7560
cccatgttgt	gcaaaaaagc	ggttagctcc	ttcggtcctc	cgatcgttgt	cagaagtaag	7620
ttggccgcag	tgttatcact	catggttatg	gcagcactgc	ataattctct	tactgtcatg	7680
ccatccgtaa	gatgcttttc	tgtgactggt	gagtactcaa	ccaagtcatt	ctgagaatag	7740
tgtatgcggc	gaccgagttg	ctcttgcccg	gcgtcaatac	gggataatac	cgcgccacat	7800
agcagaactt	taaaagtgct	catcattgga	aaacgttctt	cggggcgaaa	actctcaagg	7860
atcttaccgc	tgttgagatc	cagttcgatg	taacccactc	gtgcacccaa	ctgatcttca	7920
gcatcttta	ctttcaccag	cgtttctggg	tgagcaaaaa	caggaaggca	aaatgccgca	7980
aaaaagggaa	taagggcgac	acggaaatgt	tgaatactca	tactcttcct	ttttcaatat	8040
tattgaagca	tttatcaggg	ttattgtctc	atgagcggat	acatatttga	atgtatttag	8100
aaaaataaac	aaataggggt	tccgcgcaca	tttccccgaa	aagtgccacc	tgacgtctaa	8160
gaaaccatta	ttatcatgac	attaacctat	aaaaataggc	gtatcacgag		8210

<212> DNA <213> ALVAC

<400> 3 cgggaaagca gagcgcgcaa agccactact gccacttttg gagactgtgt acgtcgaggg 60 cctctgccag tgtcgaacag acattcgcct acggccctcg tctgttcggg cagtcccgcg 120 cagtcgccca caaccgccca cagccccgac cgaattgata cgccgtagtc tcgtctaaca 180 tgactctcac gtggtatacg ccacacttta tggcgtgtct acgcattcct cttttatggc 240 gtagtccgcg gtaagcggta agtccgacgc gttgacaacc cttcccgcta gccacgcccg 300 gagaagcgat aatgcggtcg accgctttcc ccctacacga cgttccgcta attcaaccca 360 ttgcggtccc aaaagggtca gtgctgcaac attttgctgc cggtcacggt tcgaaccgac 420 gtccataaga tttgatcctt atctacttta atacacgttt cctctatgga aatctatacc 480 tagactaaat aaaccaaaaa gtattagtat tagattgttg taaaagtgat atgatatgga 540 agaacgtgtt cagcggtaat catcatatct gaatatgaaa cattggtatc atatgaaatc 600 gcgcagtaga agaagtagat tttgtctaaa tgttgttatt agtagcagca gtagaagtag 660 aagtaatttc aaaagtataa gttattgaaa gaaaagattt tgtagtagac ttagttattt 720 gtatcttqcc atatctcqca attaqaqqta acattttata tqattqcqca acqaqtacta 780 catgaaaaaa agtaataaat ctttaatacg taaaatctag aaatattcgc cggcactaat 840 tgatcagtat ttttgggccc tagctaagat ctgagctcta tttttgatat agtctcqttg 900 gggttggtcg tgaggttagt actacggctg tcaccggggt cgactctctg gtcctcttca 960 aggtctacgt ctctgacact acgagaactg ataccttaat aacgccggtc atcggttcaa 1020 tctctgtttt gtccgtatcc agggcaataa taaaccgcac taaaaccgct atttctcttg 1080 aacacacaca acgacgccat agggtaacta tgcggttctt atgacgcccc tacccaatct 1140 ccggctcacc gtcctctcca actccaggcg agggctttcc attctgctca gacccccct 1200 ttactacccc cacaggccgg gtatctcctg taggtcccac tgacccagtg acgccaaacg 1260 tgagtgactc aagacctaag gtgtatgtat ccgagaacgc agtaaagaac actgtaactt 1320 atctcactcc caggacaacg gtaacctgtc gacgtcggac cctgactgac cctccgagac 1380 tggtaaatgg gtggtgtcca tccaacacaa gactcggagt ccaagtgtcc acttccggtg 1440 tcgtaggaac aggaggtgcc caaacctcaa caacgacctc tacctcccga acccqtcgag 1500 gcgcctttgt caataacaaa attgacatca ggacgacact ggtgaccgac tcaataaccg 1560 gaccgttcat atctcaggcg acaagaagag tcaatacaac gaatatttat tgagaactca 1620 tacgacgact tacaaaggta gttagtcggt cctcatgaca cgtccccca acctacgacg 1680 taccgttctt tccgagttca agtgcggccc tgccatcatc cacatactac ctctatatca 1740 acccagcaga cccggtatgt tttgtaattc ctattgtccc agcctcacta gttgcctatt 1800 Page 6

aagtaagact	tacggtgtga	gtattccagg	atgtagtaac	gctcattgcc	tgtcctcaca	1860
gttacacgcc	aatagtaatc	tgttgacgtt	cgcacccgat	tggccgtttg	aaaccaataa	1920
ctgggtggta	tttattcacc	ataaaactta	gagaccgagt	gttcaattac	gttgacgcag	1980
gagtaggagt	tgacccaatc	ttaacaatga	tcaatactta	ccaaaaccac	cgagtatgtg	2040
ccattagcag	cagtgccaac	acgccaactc	aggccacagc	gataacactc	gaaccgtgca	2100
catcctaggt	gataacaagt	gccattataa	cccttacttg	tcaaggaccc	acctgacaac	2160
ctttcacggt	aactgtttgg	tcgacataac	ccgccctcct	aacgatcgcc	gtactgtcga	2220
gtctaagtct	aaaaggggac	tagatatcga	acacaaatct	cccgactaac	atcctcgtag	2280
cccaggcatt	tcgtgcaact	cttagtgact	tagtctggag	gaccgcgact	gacctaaaac	2340
ccaaagcgta	aacatcgaac	gacacagcaa	ggaccagtgc	aatttgtccc	agtctcaaga	2400
taaaggcaac	gactcaacct	cagatcccct	gtgtccgtcc	ctgaccaaca	agtgggtggt	2460
ctctatacaa	cgcagaactc	aaagcccgag	cgtacatttt	cgctgccgta	gaaacagaag	2520
ctgtccgaat	gataataacc	tcgattatct	tccgaatccc	tcaaggccca	tatgggcctt	2580
gaccggtcaa	cgaagaagta	agtgttctag	actgaaatac	tgcacatccc	acatcttagg	2640
acacagtaag	acctactaca	agacctagtc	gtccctacgt	aaccccatat	aatagagagc	2700
tggtgacata	cgcccgggac	cccatcgaac	aactcaagga	taatgtatag	gatattaaac	2760
tgccaacggt	aggtgagaaa	gtggaaacat	ggtcgacatc	ggtttttcta	cgaccccgtc	2820
taacacctgt	tcatcttcgt	ggaggaaggg	gagacgctgt	aacttgccgc	acctaagtta	2880
tcactcgaac	cgtcaccacc	cgcccaaggt	cttccaatct	tcactccgac	actcgtcctc	2940
ggagacggtc	ccctacgtgg	tagacacccc	tccccggctc	cctctgaggt	aataaatata	3000
aggtttttt	tttttatttt	aaagttaaaa	acagctggac	gtcgagctgc	ctaggggggc	3060
ccaagaaata	agatatgaat	ttttcacttt	tatttatgtt	tccaagaact	cccaacacaa	3120
tttaactttc	gctctttatt	agtatttaat	aaagtaatag	cgctataggc	aattcaaaca	3180
tagcattacc	tcctcggcgt	cagtctagga	tcgcagctcg	ggggagactc	agtcctttgt	3240
aaaagtctgg	atacctttga	tgaaggactt	ttgttgcaag	acagggggaa	cggcagggtt	3300
cgttacctac	taaactacga	caggggcctg	ctataacttg	ttaccaagtg	acttctgggt	3360
ccaggtctac	ttcgagggtc	ttacggtctc	cgacgagggg	ggcaccgggg	acgtggtcgt	3420
cgaggatgtg	gccgccgggg	acgtggtcgg	gggaggaccg	gggacagtag	aagacaggga	3480
agggtctttt	ggatggtccc	gtcgatgcca	aaggcagacc	cgaagaacgt	aagaccctgt	3540
cggttcagac	actgaacgtg	catgagggga	cgggagttgt	tctacaaaac	ggttgaccgg	3600
ttctggacgg	gacacgtcga	cacccaacta	aggtgtgggg	gcgggccgtg	ggcgcaggcg	3660

cggtaccggt	agatgttcgt		tactgcctcc		gacgggggtg	3720
gtactcgcga	cgagtctatc	gctaccagac	cggggaggag	tcgtagaata	ggctcacctt	3780
cctttaaacg	cacacctcat	aaacctactg	tctttgtgaa	aagctgtatc	acaccaccac	3840
gggatactcg	gcggactcca	accgagactg	acatggtggt	aggtgatgtt	gatgtacaca	3900
ttgtcaagga	cgtacccgcc	gtacttggcc	tccgggtagg	agtggtagta	gtgtgacctt	3960
ctgaggtcac	cattagatga	ccctgccttg	tcgaaactcc	acgcacaaac	acggacagga	4020
ccctctctgg	ccgcgtgtct	ccttctctta	gaggcgttct	ttcccctcgg	agtggtgctc	4080
gacgggggtc	cctcgtgatt	cgctcgtgac	gggttgttgt	ggtcgaggag	aggggtcggt	4140
ttcttctttg	gtgacctacc	tcttataaag	tgggaagtct	aggcacccgc	actcgcgaag	4200
ctctacaagg	ctctcgactt	actccggaac	cttgagttcc	tacgggtccg	acccttcctc	4260
ggtccccct	cgtcccgagt	gaggtcggtg	gacttcaggt	ttttcccagt	cagatggagg	4320
gcggtatttt	ttgagtacaa	gttctgtctt	cccggactga	gtctgacttg	cgcaaaaaat	4380
agggcccgag	ctcccatggc	ctaggaaaaa	tatcgattaa	tcagtgcatg	gaaactctca	4440
tggtgaagtc	gatggagaaa	acacagagtc	tcattgaaag	aaattagtta	aggttttgtc	4500
atatactaaa	aggtaaagaa	agtttctaca	tcaaatgtag	acgaggaaac	aacttttcat	4560
cggactcgtg	aagaaaagat	ggtacttaat	gtcgaccgtt	ctagttaaaa	agggtcaaga	4620
cctgtaaaat	aaaaaaaatt	catcacacga	tgtataaagt	tataaaggtc	taacatgtcg	4680
ctagtaattt	cctcatgcag	ggtacaatag	gtcgttcagt	catagtcgtg	gaaacaagtt	4740
atcttcaaat	tggtaacaat	ttaaaaataa	actatgccga	tatacatctc	ctcaattggc	4800
taggcacaaa	ctttatagat	gtaggcggct	tactcggtta	tcttcaaatt	ggtttaattg	4860
aaacaattcc	attcgacggt	ttgtgtttcc	tcatttcgga	ggcgacattt	cttgtaacaa	4920
atgtatcaat	aagaagttgt	ctagaaagtg	ataaaacatc	agcagagagt	tgtggcgtag	4980
tacgtctgtt	cttcaacacg	taagtcattg	atgtccaaat	cgaggtatgg	agtagttcta	5040
aaaatatcgg	agccataaga	acttgtaatg	tcggtaaagt	tctcctctaa	catctcatgg	5100
tataaggcac	aatcccagct	taggtaacag	gtttttggat	aaatctctac	gtaacagtaa	5160
taggtactat	cggagtgtct	gcatatacat	tcggtagaac	ttacatatta	aaacaacaaa	5220
agttgttggc	gagcacttgt	cgaagatatg	aaaaagtaaa	agaagtacta	attatatcaa	5280
atgccttata	ttcatatgtt	tttcaaatat	cattagagta	ttatagactt	tgtgtatgta	5340
ttttgtacct	tcttaatgtg	ctacagcaac	tctatttacc	gaaaaataac	agtatcaaat	5400
gtttaagcgt	cattagaagt	agaaaatgct	tataacgtct	tagacaaaat	aggttggtca	5460
			gaaggctatc			5520
aacgtggata	attcaatgta	gacagtttag	gtagaaaggt Page	tgactgaaat 8	acattgctac	5580

gctttatcgt	aaatagtgat	acagcatggg	ttaatagtac	tgttctaaga	gaatttatgc	5640
attagaataa	tagagaacgt	ataagcatta	tcattaacat	ttctcatatg	ctattgtcat	5700
atctatatgt	gcactatatt	tataaattgg	ggtaaggact	cattttatta	atgctataat	5760
gtaaaggaaa	ataataaaaa	tacaaaatca	ataaacaatc	caatatgttt	ttaatacaaa	5820
taaacacata	taaatttcgc	agcaattctt	attcgaatca	attgtataat	agcgaatcca	5880
aaacatcata	aacttaggaa	agaaatttac	ctaataaaaa	ggttacgtat	aaatatcgaa	5940
gtaggtttca	tattgtaaat	tgtaagtctt	aacgccggcg	ttaagttaag	cattagtacc	6000
agtatcgaca	aaggacacac	tttaacaata	ggcgagtgtt	aaggtgtgtt	gtatgctcgg	6060
ccttcgtatt	tcacatttcg	gaccccacgg	attactcact	cgattgagtg	taattaacgc	6120
aacgcgagtg	acgggcgaaa	ggtcagccct	ttggacagca	cggtcgacgt	aattacttag	6180
ccggttgcgc	gcccctctcc	gccaaacgca	taacccgcga	gaaggcgaag	gagcgagtga	6240
ctgagcgacg	cgagccagca	agccgacgcc	gctcgccata	gtcgagtgag	tttccgccat	6300
tatgccaata	ggtgtcttag	tcccctattg	cgtcctttct	tgtacactcg	ttttccggtc	6360
gttttccggt	ccttggcatt	tttccggcgc	aacgaccgca	aaaaggtatc	cgaggcgggg	6420
ggactgctcg	tagtgttttt	agctgcgagt	tcagtctcca	ccgctttggg	ctgtcctgat	6480
atttctatgg	tccgcaaagg	gggaccttcg	agggagcacg	cgagaggaca	aggctgggac	6540
ggcgaatggc	ctatggacag	gcggaaagag	ggaagccctt	cgcaccgcga	aagagtatcg	6600
agtgcgacat	ccatagagtc	aagccacatc	cagcaagcga	ggttcgaccc	gacacacgtg	6660
cttggggggc	aagtcgggct	ggcgacgcgg	aataggccat	tgatagcaga	actcaggttg	6720
ggccattctg	tgctgaatag	cggtgaccgt	cgtcggtgac	cattgtccta	atcgtctcgc	6780
tccatacatc	cgccacgatg	tctcaagaac	ttcaccaccg	gattgatgcc	gatgtgatct	6840
tcctgtcata	aaccatagac	gcgagacgac	ttcggtcaat	ggaagccttt	ttctcaacca	6900
tcgagaacta	ggccgtttgt	ttggtggcga	ccatcgccac	caaaaaaaca	aacgttcgtc	6960
gtctaatgcg	cgtcttttt	tcctagagtt	cttctaggaa	actagaaaag	atgccccaga	7020
ctgcgagtca	ccttgctttt	gagtgcaatt	ccctaaaacc	agtactctaa	tagtttttcc	7080
tagaagtgga	tctaggaaaa	tttaattttt	acttcaaaat	ttagttagat	ttcatatata	7140
ctcatttgaa	ccagactgtc	aatggttacg	aattagtcac	tccgtggata	gagtcgctag	7200
acagataaag	caagtaggta	tcaacggact	gaggggcagc	acatctattg	atgctatgcc	7260
ctcccgaatg	gtagaccggg	gtcacgacgt	tactatggcg	ctctgggtgc	gagtggccga	7320
ggtctaaata	gtcgttattt	ggtcggtcgg	ccttcccggc	tcgcgtcttc	accaggacgt	7380
tgaaataggc	ggaggtaggt	cagataatta	acaacggccc	ttcgatctca	ttcatcaagc	7440

#### 03-17 SEQ LIST.ST25 ggtcaattat caaacgcgtt gcaacaacgg taacgatgtc cgtagcacca cagtgcgagc 7500 agcaaaccat accgaagtaa gtcgaggcca agggttgcta gttccgctca atgtactagg 7560 7620 gggtacaaca cgttttttcg ccaatcgagg aagccaggag gctagcaaca gtcttcattc 7680 aaccggcgtc acaatagtga gtaccaatac cgtcgtgacg tattaagaga atgacagtac ggtaggcatt ctacgaaaag acactgacca ctcatgagtt ggttcagtaa gactcttatc 7740 7800 acatacgccg ctggctcaac gagaacgggc cgcagttatg ccctattatg gcgcggtgta 7860 tcgtcttgaa attttcacga gtagtaacct tttgcaagaa gccccgcttt tgagagttcc 7920 tagaatggcg acaactctag gtcaagctac attgggtgag cacgtgggtt gactagaagt cgtagaaaat gaaagtggtc gcaaagaccc actcgttttt gtccttccgt tttacggcgt 7980 8040 tttttccctt attcccgctg tgcctttaca acttatgagt atgagaagga aaaagttata ataacttcgt aaatagtccc aataacagag tactcgccta tgtataaact tacataaatc 8100 tttttatttg tttatcccca aggcgcgtgt aaaggggctt ttcacggtgg actgcagatt 8160 8210 ctttggtaat aatagtactg taattggata tttttatccg catagtgctc <210> 2100 <212> DNA Artificial <220> <223> Homo sapiens <400> 60 atggagtctc cctcggcccc tccccacaga tggtgcatcc cctggcagag gctcctgctc acagcctcac ttctaacctt ctggaacccg cccaccactg ccaagctcac tattgaatcc 120 acgccgttca atgtcgcaga ggggaaggag gtgcttctac ttgtccacaa tctgccccag 180 catctttttg gctacagctg gtacaaaggt gaaagagtgg atggcaaccg tcaaattata 240 ggatatgtaa taggaactca acaagctacc ccagggcccg catacagtgg tcgagagata 300 atatacccca atgcatccct gctgatccag aacatcatcc agaatgacac aggattctac 360 accctacacg tcataaagtc agatcttgtg aatgaagaag caactggcca gttccgggta 420 tacccggaac tccctaagcc ttctattagc tccaataata gtaagcctgt cgaagacaaa 480 gatgccgtcg cttttacatg cgagcccgaa actcaagacg caacatatct ctggtgggtg 540 600 aacaaccagt ccctgcctgt gtcccctaga ctccaactca gcaacggaaa tagaactctg accetgttta acgtgaccag gaacgacaca gcaagctaca aatgcgaaac ccaaaatcca 660 gtcagcgcca ggaggtctga ttcagtgatt ctcaacgtgc tttacggacc cgatgctcct 720 780 acaatcagcc ctctaaacac aagctataga tcaggggaaa atctgaatct gagctgtcat gccgctagca atcctcccgc ccaatacagc tggtttgtca atggcacttt ccaacagtcc 840

Page 10

acccaggaac	tgttcattcc	caatattacc	gtgaacaata	gtggatccta	cacgtgccaa	900
gctcacaata	gcgacaccgg	actcaaccgc	acaaccgtga	cgacgattac	cgtgtatgag	960
ccaccaaaac	cattcataac	tagtaacaat	tctaacccag	ttgaggatga	ggacgcagtt	1020
gcattaactt	gtgagccaga	gattcaaaat	accacttatt	tatggtgggt	caataaccaa	1080
agtttgccgg	ttagcccacg	cttgcagttg	tctaatgata	accgcacatt	gacactcctg	1140
tccgttactc	gcaatgatgt	aggaccttat	gagtgtggca	ttcagaatga	attatccgtt	1200
gatcactccg	accctgttat	ccttaatgtt	ttgtatggcc	cagacgaccc	aactatatct	1260
ccatcataca	cctactaccg	tcccggcgtg	aacttgagcc	tttcttgcca	tgcagcatcc	1320
aaccccctg	cacagtactc	ctggctgatt	gatggaaaca	ttcagcagca	tactcaagag	1380
ttatttataa	gcaacataac	tgagaagaac	agcggactct	atacttgcca	ggccaataac	1440
tcagccagtg	gtcacagcag	gactacagtt	aaaacaataa	ctgtttccgc	ggagctgccc	1500
aagccctcca	tctccagcaa	caactccaaa	cccgtggagg	acaaggatgc	tgtggccttc	1560
acctgtgaac	ctgaggctca	gaacacaacc	tacctgtggt	gggtaaatgg	tcagagcctc	1620
ccagtcagtc	ccaggctgca	gctgtccaat	ggcaacagga	ccctcactct	attcaatgtc	1680
acaagaaatg	acgcaagagc	ctatgtatgt	ggaatccaga	actcagtgag	tgcaaaccgc	1740
agtgacccag	tcaccctgga	tgtcctctat	gggccggaca	ccccatcat	ttcccccca	1800
gactcgtctt	acctttcggg	agcggacctc	aacctctcct	gccactcggc	ctctaaccca	1860
tccccgcagt	attcttggcg	tatcaatggg	ataccgcagc	aacacacaca	agttctcttt	1920
atcgccaaaa	tcacgccaaa	taataacggg	acctatgcct	gttttgtctc	taacttggct	1980
actggccgca	ataattccat	agtcaagagc	atcacagtct	ctgcatctgg	aacttctcct	2040
ggtctctcag	ctggggccac	tgtcggcatc	atgattggag	tgctggttgg	ggttgctctg	2100
<210> 5 <211> 2100 <212> DNA <213> Homo	) o sapiens					
	cctcggcccc	tccccacaga	tggtgcatcc	cctggcagag	gctcctgctc	60
acagcctcac	ttctaacctt	ctggaacccg	cccaccactg	ccaagctcac	tattgaatcc	120
acgccgttca	atgtcgcaga	ggggaaggag	gtgcttctac	ttgtccacaa	tctgccccag	180
catctttttg	gctacagctg	gtacaaaggt	gaaagagtgg	atggcaaccg	tcaaattata	240
ggatatgtaa	taggaactca	acaagctacc	ccagggcccg	catacagtgg	tcgagagata	300
atatacccca	atgcatccct	gctgatccag	aacatcatcc	agaatgacac	aggattctac	360
accctacacg	tcataaagtc	agatcttgtg	aatgaagaag Page		gttccgggta	420

tacccggagc	tgcccaagcc	ctccatctcc	agcaacaact	ccaaacccgt	ggaggacaag	480
gatgctgtgg	ccttcacctg	tgaacctgag	actcaggacg	caacctacct	gtggtgggta	540
aacaatcaga	gcctcccggt	cagtcccagg	ctgcagctgt	ccaatggcaa	caggaccctc	600
actctattca	atgtcacaag	aaatgacaca	gcaagctaca	aatgtgaaac	ccagaaccca	660
gtgagtgcca	ggcgcagtga	ttcagtcatc	ctgaatgtcc	tctatggccc	ggatgccccc	720
accatttccc	ctctaaacac	atcttacaga	tcaggggaaa	atctgaacct	ctcctgccac	780
gcagcctcta	acccacctgc	acagtactct	tggtttgtca	atgggacttt	ccagcaatcc	840
acccaagagc	tctttatccc	caacatcact	gtgaataata	gtggatccta	tacgtgccaa	900
gcccataact	cagacactgg	cctcaatagg	accacagtca	cgacgatcac	agtctatgag	960
ccacccaaac	ccttcatcac	cagcaacaac	tccaaccccg	tggaggatga	ggatgctgta	1020
gccttaacct	gtgaacctga	gattcagaac	acaacctacc	tgtggtgggt	aaataatcag	1080
agcctcccgg	tcagtcccag	gctgcagctg	tccaatgaca	acaggaccct	cactctactc	1140
agtgtcacaa	ggaatgatgt	aggaccctat	gagtgtggaa	tccagaacga	attaagtgtt	1200
gaccacagcg	acccagtcat	cctgaatgtc	ctctatggcc	cagacgaccc	caccatttcc	1260
ccctcataca	cctattaccg	tccaggggtg	aacctcagcc	tctcctgcca	tgcagcctct	1320
aacccacctg	cacagtattc	ttggctgatt	gatgggaaca	tccagcaaca	cacacaagag	1380
ctctttatct	ccaacatcac	tgagaagaac	agcggactct	atacctgcca	ggccaataac	1440
tcagccagtg	gccacagcag	gactacagtc	aagacaatca	cagtctctgc	ggagctgccc	1500
aagccctcca	tctccagcaa	caactccaaa	cccgtggagg	acaaggatgc	tgtggccttc	1560
acctgtgaac	ctgaggctca	gaacacaacc	tacctgtggt	gggtaaatgg	tcagagcctc	1620
ccagtcagtc	ccaggctgca	gctgtccaat	ggcaacagga	ccctcactct	attcaatgtc	1680
acaagaaatg	acgcaagagc	ctatgtatgt	ggaatccaga	actcagtgag	tgcaaaccgc	1740
agtgacccag	tcaccctgga	tgtcctctat	gggccggaca	ccccatcat	ttcccccca	1800
gactcgtctt	acctttcggg	agcggacctc	aacctctcct	gccactcggc	ctctaaccca	1860
tccccgcagt	attcttggcg	tatcaatggg	ataccgcagc	aacacacaca	agttctcttt	1920
atcgccaaaa	tcacgccaaa	taataacggg	acctatgcct	gttttgtctc	taacttggct	1980
actggccgca	ataattccat	agtcaagagc	atcacagtct	ctgcatctgg	aacttctcct	2040
ggtctctcag	ctggggccac	tgtcggcatc	atgattggag	tgctggttgg	ggttgctctg	2100

<sup>&</sup>lt;210> 6 <211> 9 <212> PRT <213> Homo sapiens

```
<400> 6
Leu Leu Thr Phe Trp Asn Pro Pro Thr
<210> 7
<211> 10
<212> PRT
<213> Homo sapiens
<400> 7
Val Leu Tyr Gly Pro Asp Ala Pro Thr Ile 1 \hspace{1cm} 5 \hspace{1cm} 10
<210> 8
<211>
       9
<212> PRT
<213> Homo sapiens
<400> 8
Ile Met Ile Gly Val Leu Val Gly Val 5
<210> 9
<211> 9
<212> PRT
<213> Homo sapiens
<400> 9
Gln Ile Ile Gly Tyr Val Ile Gly Thr
1 5
<210> 10
<211> 9
<212> PRT
<213> Homo sapiens
<400> 10
Lys Thr Cys Pro Val Gln Leu Trp Val 1
<210> 11
<211> 9
<212> PRT
<213> Homo sapiens
<400> 11
Ser Thr Pro Pro Pro Gly Thr Arg Val 5
<210> 12
<211> 11
```

<212> PRT

<213> Homo sapiens

<400> 12

Lys Thr Tyr Gln Gly Ser Tyr Gly Phe Arg Leu  $1 ext{ } 10$ 

<210> 13

<211> 10

<212> PRT

<213> Homo sapiens

<400> 13

Val Val Val Pro Tyr Glu Pro Pro Glu Val 1 5 10

<210> 14

<211> 314

<212> PRT

<213> Homo sapiens

<400> 14

Met Ala Pro Pro Gln Val Leu Ala Phe Gly Leu Leu Leu Ala Ala 1 5 10 15

Thr Ala Thr Phe Ala Ala Ala Gln Glu Glu Cys Val Cys Glu Asn Tyr 20 25 30

Lys Leu Ala Val Asn Cys Phe Val Asn Asn Asn Arg Gln Cys Gln Cys

Thr Ser Val Gly Ala Gln Asn Thr Val Ile Cys Ser Lys Leu Ala Ala 50 60

Lys Cys Leu Val Met Lys Ala Glu Met Asn Gly Ser Lys Leu Gly Arg 65 70 75 80

Arg Ala Lys Pro Glu Gly Ala Leu Gln Asn Asn Asp Gly Leu Tyr Asp 85 90 95

Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly 100 105 110

Thr Ser Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp 115 120 125

Lys Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile 130 135 140

03-17 SEQ LIST.ST25 Ile Ile Glu Leu Lys His Lys Ala Arg Glu Lys Pro Tyr Asp Ser Lys 145 150 155 160 Ser Leu Arg Thr Ala Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu Asp Pro Lys Phe Ile Thr Ser Ile Leu Tyr Glu Asn Asn Val Ile Thr Ile Asp Leu Val Gln Asn Ser Ser Gln Lys Thr Gln Asn Asp Val Asp 195 200 205 Ile Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser 210 215 220 Leu Phe His Ser Lys Lys Met Asp Leu Thr Val Asn Gly Glu Gln Leu 225 230 235 240 Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala 245 250 255 Pro Glu Phe Ser Met Gln Gly Leu Lys Ala Gly Val Ile Ala Val Ile 260 265 270 Val Val Val Val Ile Ala Val Val Ala Gly Ile Val Val Leu Val Ile Ser Arg Lys Lys Arg Met Ala Lys Tyr Glu Lys Ala Glu Ile Lys Glu 290 295 300 Met Gly Glu Met His Arg Glu Leu Asn Ala 305 310 <210> 15 <211> 314 <212> PRT <213> Artificial <220> <223> Homo sapiens <400> Met Ala Pro Pro Gln Val Leu Ala Phe Gly Leu Leu Leu Ala Ala Ala 1 5 10 15 Thr Ala Thr Phe Ala Ala Ala Gln Glu Glu Cys Val Cys Glu Asn Tyr 20 25 30

Lys Leu Ala Val Asn Cys Phe Val Asn Asn Asn Arg Gln Cys Gln Cys

Page 15

Thr Ser Val Gly Ala Gln Asn Thr Val Ile Cys Ser Lys Leu Ala Ala 50 60 Lys Cys Leu Val Met Lys Ala Glu Met Asn Gly Ser Lys Leu Gly Arg 65 70 75 80 Arg Ala Lys Pro Glu Gly Ala Leu Gln Asn Asn Asp Gly Leu Tyr Asp 85 90 95 Pro Asp Cys Asp Glu Ser Gly Leu Phe Lys Ala Lys Gln Cys Asn Gly 100 105 110Thr Ser Thr Cys Trp Cys Val Asn Thr Ala Gly Val Arg Arg Thr Asp 125 Lys Asp Thr Glu Ile Thr Cys Ser Glu Arg Val Arg Thr Tyr Trp Ile 130 135 140 Ile Ile Glu Leu Lys His Lys Ala Arg Glu Lys Pro Tyr Asp Ser Lys 145 150 155 160 Ser Leu Arg Thr Ala Leu Gln Lys Glu Ile Thr Thr Arg Tyr Gln Leu 165 170 175 Asp Pro Lys Phe Ile Thr Ser Val Leu Tyr Glu Asn Asn Val Ile Thr 180 185 190Ile Asp Leu Val Gln Asn Ser Ser Gln Lys Thr Gln Asn Asp Val Asp 195 200 205 Ile Ala Asp Val Ala Tyr Tyr Phe Glu Lys Asp Val Lys Gly Glu Ser 210 215 220 Leu Phe His Ser Lys Lys Met Asp Leu Thr Val Asn Gly Glu Gln Leu 225 230 235 240 Asp Leu Asp Pro Gly Gln Thr Leu Ile Tyr Tyr Val Asp Glu Lys Ala 245 250 255 Pro Glu Phe Ser Met Gln Gly Leu Lys Ala Gly Val Ile Ala Val Ile 260 265 270 Val Val Val Ile Ala Val Val Ala Gly Ile Val Val Leu Val Ile 275 280 285

```
03-17 SEQ LIST.ST25
Ser Arg Lys Lys Arg Met Ala Lys Tyr Glu Lys Ala Glu Ile Lys Glu 290 295 300
Met Gly Glu Met His Arg Glu Leu Asn Ala
305 310
<210>
<211>
      10
<212> PRT
<213> Homo sapiens
<400> 16
Gln Leu Asp Pro Lys Phe Ile Thr Ser Ile
1 5 10
<210>
      17
<211>
      10
<212>
      PRT
      Artificial
<213>
<220>
<223>
      Homo sapiens
<400> 17
Gln Leu Asp Pro Lys Phe Ile Thr Ser Val
<210>
      18
<211>
       36
<212>
      DNA
<213> Homo sapiens
<400> 18
                                                                           36
caaaatttat cacgagtgtg ttgtatgaga ataatg
<210>
      19
<211>
       36
<212> DNA
       Artificial
<213>
<220>
<223>
       Homo sapiens
<400> 19
                                                                           36
cattattctc atacaacaca ctcgtgataa attttg
<210>
       20
<211>
       945
<212>
       DNA
<213>
       Artificial
<220>
<223>
       Homo sapiens
<400>
       20
```

atggcgcccc cgcaggtcct		03-17 SEQ L cttctgcttg		ggcgactttt	60
gccgcagctc aggaagaatg	tgtctgtgaa	aactacaagc	tggccgtaaa	ctgctttgtg	120
aataataatc gtcaatgcca	gtgtacttca	gttggtgcac	aaaatactgt	catttgctca	180
aagctggctg ccaaatgttt	ggtgatgaag	gcagaaatga	atggctcaaa	acttgggaga	240
agagcaaaac ctgaaggggc	cctccagaac	aatgatgggc	tttatgatcc	tgactgcgat	300
gagagcgggc tctttaaggc	caagcagtgc	aacggcacct	ccacgtgctg	gtgtgtgaac	360
actgctgggg tcagaagaac	agacaaggac	actgaaataa	cctgctctga	gcgagtgaga	420
acctactgga tcatcattga	actaaaacac	aaagcaagag	aaaaacctta	tgatagtaaa	480
agtttgcgga ctgcacttca	gaaggagatc	acaacgcgtt	atcaactgga	tccaaaattt	540
atcacgagtg tgttgtatga	gaataatgtt	atcactattg	atctggttca	aaattcttct	600
caaaaaactc agaatgatgt	ggacatagct	gatgtggctt	attattttga	aaaagatgtt	660
aaaggtgaat ccttgtttca	ttctaagaaa	atggacctga	cagtaaatgg	ggaacaactg	720
gatctggatc ctggtcaaac	tttaatttat	tatgttgatg	aaaaagcacc	tgaattctca	780
atgcagggtc taaaagctgg	tgttattgct	gttattgtgg	ttgtggtgat	agcagttgtt	840
gctggaattg ttgtgctggt	tatttccaga	aagaagagaa	tggcaaagta	tgagaaggct	900
gagataaagg agatgggtga	gatgcatagg	gaactcaatg	cataa		945
<210> 21 <211> 9515 <212> DNA <213> Artificial		:			
<220> <223> ALVAC					
<400> 21 atggcgcccc cgcaggtcct	cgcgttcggg	cttctgcttg	ccgcggcgac	ggcgactttt	60
					60 120
atggcgcccc cgcaggtcct	tgtctgtgaa	aactacaagc	tggccgtaaa	ctgctttgtg	
atggcgcccc cgcaggtcct gccgcagctc aggaagaatg	tgtctgtgaa gtgtacttca	aactacaagc gttggtgcac	tggccgtaaa aaaatactgt	ctgctttgtg catttgctca	120
atggcgcccc cgcaggtcct gccgcagctc aggaagaatg aataataatc gtcaatgcca	tgtctgtgaa gtgtacttca ggtgatgaag	aactacaagc gttggtgcac gcagaaatga	tggccgtaaa aaaatactgt atggctcaaa	ctgctttgtg catttgctca acttgggaga	120 180
atggcgcccc cgcaggtcct gccgcagctc aggaagaatg aataataatc gtcaatgcca aagctggctg ccaaatgttt	tgtctgtgaa gtgtacttca ggtgatgaag cctccagaac	aactacaagc gttggtgcac gcagaaatga aatgatgggc	tggccgtaaa aaaatactgt atggctcaaa tttatgatcc	ctgctttgtg catttgctca acttgggaga tgactgcgat	120 180 240
atggcgcccc cgcaggtcct gccgcagctc aggaagaatg aataataatc gtcaatgcca aagctggctg ccaaatgttt agagcaaaac ctgaagggg	tgtctgtgaa gtgtacttca ggtgatgaag cctccagaac caagcagtgc	aactacaagc gttggtgcac gcagaaatga aatgatgggc aacggcacct	tggccgtaaa aaaatactgt atggctcaaa tttatgatcc ccacgtgctg	ctgctttgtg catttgctca acttgggaga tgactgcgat gtgtgtgaac	120 180 240 300
atggcgcccc cgcaggtcct gccgcagctc aggaagaatg aataataatc gtcaatgcca aagctggctg ccaaatgttt agagcaaaac ctgaaggggc gagagcgggc tctttaaggc	tgtctgtgaa gtgtacttca ggtgatgaag cctccagaac caagcagtgc agacaaggac	aactacaagc gttggtgcac gcagaaatga aatgatgggc aacggcacct actgaaataa	tggccgtaaa aaaatactgt atggctcaaa tttatgatcc ccacgtgctg cctgctctga	ctgctttgtg catttgctca acttgggaga tgactgcgat gtgtgtgaac gcgagtgaga	120 180 240 300 360
atggcgcccc cgcaggtcct gccgcagctc aggaagaatg aataataatc gtcaatgcca aagctggctg ccaaatgttt agagcaaaac ctgaaggggc gagagcgggc tctttaaggc actgctgggg tcagaagaac	tgtctgtgaa gtgtacttca ggtgatgaag cctccagaac caagcagtgc agacaaggac actaaaacac	aactacaagc gttggtgcac gcagaaatga aatgatgggc aacggcacct actgaaataa aaagcaagag	tggccgtaaa aaaatactgt atggctcaaa tttatgatcc ccacgtgctg cctgctctga aaaaacctta	ctgctttgtg catttgctca acttgggaga tgactgcgat gtgtgtgaac gcgagtgaga tgatagtaaa	120 180 240 300 360 420
atggcgcccc cgcaggtcct gccgcagctc aggaagaatg aataataatc gtcaatgcca aagctggctg ccaaatgttt agagcaaaac ctgaaggggc gagagcgggc tctttaaggc actgctgggg tcagaagaac acctactgga tcatcattga	tgtctgtgaa gtgtacttca ggtgatgaag cctccagaac caagcagtgc agacaaggac actaaaacac gaaggagatc	aactacaagc gttggtgcac gcagaaatga aatgatgggc aacggcacct actgaaataa aaagcaagag acaacgcgtt	tggccgtaaa aaaatactgt atggctcaaa tttatgatcc ccacgtgctg cctgctctga aaaaacctta atcaactgga	ctgctttgtg catttgctca acttgggaga tgactgcgat gtgtgtgaac gcgagtgaga tgatagtaaa tccaaaattt	120 180 240 300 360 420 480

aaaggtgaat	ccttgtttca	ttctaagaaa	atggacctga	cagtaaatgg	ggaacaactg	720
gatctggatc	ctggtcaaac	tttaatttat	tatgttgatg	aaaaagcacc	tgaattctca	780
atgcagggtc	taaaagctgg	tgttattgct	gttattgtgg	ttgtggtgat	agcagttgtt	840
gctggaattg	ttgtgctggt	tatttccaga	aagaagagaa	tggcaaagta	tgagaaggct	900
gagataaagg	agatgggtga	gatgcatagg	gaactcaatg	cataagaagc	ttatcgatac	960
cgtcgacctc	gaggaattct	ttttattgat	taactagtta	atcacggccg	cttataaaga	1020
tctaaaatgc	ataatttcta	aataatgaaa	aaaaagtaca	tcatgagcaa.	cgcgttagta	1080
tattttacaa	tggagattaa	cgctctatac	cgttctatgt	ttattgattc	agatgatgtt	1140
ttagaaaaga	aagttattga	atatgaaaac	tttaatgaag	atgaagatga	cgacgatgat	1200
tattgttgta	aatctgtttt	agatgaagaa	gatgacgcgc	taaagtatac	tatggttaca	1260
aagtataagt	ctatactact	aatggcgact	tgtgcaagaa	ggtatagtat	agtgaaaatg	1320
ttgttagatt	atgattatga	aaaaccaaat	aaatcagatc	catatctaaa	ggtatctcct	1380
ttgcacataa	tttcatctat	tcctagttta	gaatacctgc	agccaagctt	ggcactggcc	1440
gtcgttttac	aacgtcgtga	ctgggaaaac	cctggcgtta	cccaacttaa	tcgccttgca	1500
gcacatcccc	ctttcgccag	ctggcgtaat	agcgaagagg	cccgcaccga	tcgcccttcc	1560
caacagttgc	gcagcctgaa	tggcgaatgg	cgcctgatgc	ggtattttct	ccttacgcat	1620
ctgtgcggta	tttcacaccg	catatggtgc	actctcagta	caatctgctc	tgatgccgca	1680
tagttaagcc	agccccgaca	cccgccaaca	cccgctgacg	cgccctgacg	ggcttgtctg	1740
ctcccggcat	ccgcttacag	acaagctgtg	accgtctccg	ggagctgcat	gtgtcagagg	1800
ttttcaccgt	catcaccgaa	acgcgcgaga	cgaaagggcc	tcgtgatacg	cctattttta	1860
taggttaatg	tcatgataat	aatggtttct	tagacgtcag	gtggcacttt	tcggggaaat	1920
gtgcgcggaa	cccctatttg	tttattttc	taaatacatt	caaatatgta	tccgctcatg	1980
agacaataac	cctgataaat	gcttcaataa	tattgaaaaa	ggaagagtat	gagtattcaa	2040
catttccgtg	tcgcccttat	tccctttttt	gcggcatttt	gccttcctgt	ttttgctcac	2100
ccagaaacgc	tggtgaaagt	aaaagatgct	gaagatcagt	tgggtgcacg	agtgggtmac	2160
atcgaactgg	atctcaacag	cggtaagatc	cttgagagtt	ttcgccccga	agaacgtttt	2220
ccaatgatga	gcacttttaa	agttctgcta	tgtggcgcgg	tattatcccg	tattgacgcc	2280
gggcaagagc	aactcggtcg	ccgcatacac	tattctcaga	atgacttggt	tgagtactca	2340
ccagtcacag	aaaagcatct	tacggatggc	atgacagtaa	gagaattatg	cagtgctgcc	2400
ataaccatga	gtgataacac	tgcggccaac	ttacttctga	caacgatcgg	aggaccgaag	2460
gagctaaccg	cttttttgca	caacatgggg	gatcatgtaa	ctcgccttga	tcgttgggaa	2520

ccggagctga	atgaagccat	accaaacgac	gagcgtgaca		tgtagcaatg	2580
gcaacaacgt	tgcgcaaact	attaactggc	gaactactta	ctctagcttc	ccggcaacaa	2640
ttaatagact	ggatggaggc	ggataaagtt	gcaggaccac	ttctgcgctc	ggcccttccg	2700
gctggctggt	ttattgctga	taaatctgga	gccggtgagc	gtgggtctcg	cggtatcatt	2760
gcagcactgg	ggccagatgg	taagccctcc	cgtatcgtag	ttatctacac	gacggggagt	2820
caggcaacta	tggatgaacg	aaatagacag	atcgctgaga	taggtgcctc	actgattaag	2880
cattggtaac	tgtcagacca	agtttactca	tatatacttt	agattgattt	aaaacttcat	2940
ttttaattta	aaaggatcta	ggtgaagatc	ctttttgata	atctcatgac	caaaatccct	3000
taacgtgagt	tttcgttcca	ctgagcgtca	gaccccgtag	aaaagatcaa	aggatcttct	3060
tgagatcctt	tttttctgcg	cgtaatctgc	tgcttgcaaa	caaaaaaacc	accgctacca	3120
gcggtggttt	gtttgccgga	tcaagagcta	ccaactcttt	ttccgaaggt	aactggcttc	3180
agcagagcgc	agataccaaa	tactgtcctt.	ctagtgtagc	cgtagttagg	ccaccacttc	3240
aagaactctg	tagcaccgcc	tacatacctc	gctctgctaa	tcctgttacc	agtggctgct	3300
gccagtggcg	ataagtcgtg	tcttaccggg	ttggactcaa	gacgatagtt	accggataag	3360
gcgcagcggt	cgggctgaac	ggggggttcg	tgcacacagc	ccagcttgga	gcgaacgacc	3420
tacaccgaac	tgagatacct	acagcgtgag	ctatgagaaa	gcgccacgct	tcccgaaggg	3480
agaaaggcgg	acaggtatcc	ggtaagcggc	agggtcggaa	caggagagcg	cacgagggag	3540
cttccagggg	gaaacgcctg	gtatctttat	agtcctgtcg	ggtttcgcca	cctctgactt	3600
gagcgtcgat	ttttgtgatg	ctcgtcaggg	gggcggagcc	tatggaaaaa	cgccagcaac	3660
gcggcctttt	tacggttcct	ggccttttgc	tggccttttg	ctcacatgtt	ctttcctgcg	3720
ttatcccctg	attctgtgga	taaccgtatt	accgcctttg	agtgagctga	taccgctcgc	3780
cgcagccgaa	cgaccgagcg	cagcgagtca	gtgagcgagg	aagcggaaga	gcgcccaata	3840
cgcaaaccgc	ctctccccgc	gcgttggccg	attcattaat	gcagctggca	cgacaggttt	3900
cccgactgga	aagcgggcag	tgagcgcaac	gcaattaatg	tgagttagct	cactcattag	3960
gcaccccagg	ctttacactt	tatgcttccg	gctcgtatgt	tgtgtggaat	tgtgagcgga	4020
taacaatttc	acacaggaaa	cagctatgac	catgattacg	aattgaattg	cggccgcaat	4080
tctgaatgtt	aaatgttata	ctttggatga	agctataaat	atgcattgga	aaaataatcc	4140
atttaaagaa	aggattcaaa	tactacaaaa	cctaagcgat	aatatgttaa	ctaagcttat	4200
tcttaacgac	gctttaaata	tacacaaata	aacataattt	ttgtataacc	taacaaataa	4260
ctaaaacata	aaaataataa	aaggaaatgt	aatatcgtaa	ttattttact	caggaatggg	4320
gttaaatatt	tatatcacgt	gtatatctat	actgttatcg	tatactcttt	acaattacta	4380
ttacgaatat	gcaagagata	ataagattac	gtatttaaga Page		atgataattg	4440

ggtacgacat	agtgataaat	gctatttcgc	atcgttacat	aaagtcagtt	ggaaagatgg	4500
atttgacaga	tgtaacttaa	taggtgcaaa	aatgttaaat	aacagcattc	tatcggaaga	4560
taggatacca	gttatattat	acaaaaatca	ctggttggat	aaaacagatt	ctgcaatatt	4620
cgtaaaagat	gaagattact	gcgaatttgt	aaactatgac	aataaaaagc	catttatctc	4680
aacgacatcg	tgtaattctt	ccatgtttta	tgtatgtgtt	tcagatatta	tgagattact	4740
ataaactttt	tgtatactta	tattccgtaa	actatattaa	tcatgaagaa	aatgaaaaag	4800
tatagaagct	gttcacgagc	ggttgttgaa	aacaacaaaa	ttatacattc	aagatggctt	4860
acatatacgt	ctgtgaggct	atcatggata	atgacaatgc	atctctaaat	aggtttttgg	4920
acaatggatt	cgaccctaac	acggaatatg	gtactctaca	atctcctctt	gaaatggctg	4980
taatgttcaa	gaataccgag	gctataaaaa	tcttgatgag	gtatggagct	aaacctgtag	5040
ttactgaatg	cacaacttct	tgtctgcatg	atgcggtgtt	gagagacgac	tacaaaatag	5100
tgaaagatct	gttgaagaat	aactatgtaa	acaatgttct	ttacagcgga	ggctttactc	5160
ctttgtgttt	ggcagcttac	cttaacaaag	ttaatttggt	taaacttcta	ttggctcatt	5220
cggcggatgt	agatatttca	aacacggatc	ggttaactcc	tctacatata	gccgtatcaa	5280
ataaaaattt	aacaatggtt	aaacttctat	tgaacaaagg	tgctgatact	gacttgctgg	5340
ataacatggg	atgtactcct	ttaatgatcg	ctgtacaatc	tggaaatatt	gaaatatgta	5400
gcacactact	taaaaaaaat	aaaatgtcca	gaactgggaa	aaattgatct	tgccagctgt	5460
aattcatggt	agaaaagaag	tgctcaggct	acttttcaac	aaaggagcag	atgtaaacta	5520
catctttgaa	agaaatggaa	aatcatatac	tgttttggaa	ttgattaaag	aaagttactc	5580
tgagacacaa	aagaggtagc	tgaagtggta	ctctcaaagg	tacgtgacta	attagctata	5640
aaaaggatcc	tagaggatca	ttatttaacg	taaactaaat	ggaaaagcta	tttacaggta	5700
catacggtgt	tttctggaat	caaatgattc	tgattttgag	gattttatca	atacaataat	5760
gacagtgcta	actggtaaaa	aagaaagcaa	acaattatca	tggctaacaa	tttttattat	5820
atttgtagta	tgcatagtgg	tctttacgtt	tctttattta	aagttaatgt	gttaagatta	5880
aatggagtaa	ttggatcccc	catcgatggg	gaattcactg	gccgtcgttt	tacaacgtcg	5940
tgactgggaa	aaccctggcg	ttacccaact	taatcgcctt	gcagcacatc	cccctttcgc	6000
cagctggcgt	aatagcgaag	aggcccgcac	cgatcgccct	tcccaacagt	tgcgcagcct	6060
gaatggcgaa	tggcgctttg	cctggtttcc	ggcaccagaa	gcggtgccgg	aaagctggct	6120
ggagtgcgat	cttcctgagg	ccgatactgt	cgtcgtcccc	tcaaactggc	agatgcacgg	6180
ttacgatgcg	cccatctaca	ccaacgtaac	ctatcccatt	acggtcaatc	cgccgtttgt	6240
tcccacggag	aatccgacgg	gttgttactc	gctcacattt	aatgttgatg	aaagctggct	6300

			03-17 SEQ L	TST.ST25		
acaggaaggc	cagacgcgaa				atctgtggtg	6360
caacgggcgc	tgggtcggtt	acggccagga	cagtcgtttg	ccgtctgaat	ttgacctgag	6420
cgcattttta	cgcgccggag	aaaaccgcct	cgcggtgatg	gtgctgcgtt	ggagtgacgg	6480
cagttatctg	gaagatcagg	atatgtggcg	gatgagcggc	attttccgtg	acgtctcgtt	6540
gctgcataaa	ccgactacac	aaatcagcga	tttccatgtt	gccactcgct	ttaatgatga	6600
tttcagccgc	gctgtactgg	aggctgaagt	tcagatgtgc	ggcgagttgc	gtgactacct	6660
acgggtaaca	gtttctttat	ggcagggtga	aacgcaggtc	gccagcggca	ccgcgccttt	6720
cggcggtgaa	attatcgatg	agcgtggtgg	ttatgccgat	cgcgtcacac	tacgtctgaa	6780
cgtcgaaaac	ccgaaactgt	ggagcgccga	aatcccgaat	ctctatcgtg	cggtggttga	6840
actgcacacc	gccgacggca	cgctgattga	agcagaagcc	tgcgatgtcg	gtttccgcga	6900
ggtgcggatt	gaaaatggtc	tgctgctgct	gaacggcaag	ccgttgctga	ttcgaggcgt	6960
taaccgtcac	gagcatcatc	ctctgcatgg	tcaggtcatg	gatgagcaga	cgatggtgca	7020
ggatatcctg	ctgatgaagc	agaacaactt	taacgccgtg	cgctgttcgc	attatccgaa	7080
ccatccgctg	tggtacacgc	tgtgcgaccg	ctacggcctg	tatgtggtgg	atgaagccaa	7140
tattgaaacc	cacggcatgg	tgccaatgaa	tcgtctgacc	gatgatccgc	gctggctacc	7200
ggcgatgagc	gaacgcgtaa	cgcgaatggt	gcagcgcgat	cgtaatcacc	cgagtgtgat	7260
catctggtcg	ctggggaatg	aatcaggcca	cggcgctaat	cacgacgcgc	tgtatcgctg	7320
gatcaaatct	gtcgatcctt	cccgcccggt	gcagtatgaa	ggcggcggag	ccgacaccac	7380
ggccaccgat	attatttgcc	cgatgtacgc	gcgcgtggat	gaagaccagc	ccttcccggc	7440
tgtgccgaaa	tggtccatca	aaaaatggct	ttcgctacct	ggagagacgc	gcccgctgat	7500
cctttgcgaa	tacgcccacg	cgatgggtaa	cagtcttggc	ggtttcgcta	aatactggca	7560
ggcgtttcgt	cagtatcccc	gtttacaggg	cggcttcgtc	tgggactggg	tggatcagtc	7620
gctgattaaa	tatgatgaaa	acggcaaccc	gtggtcggct	tacggcggtg	attttggcga	7680
tacgccgaac	gatcgccagt	tctgtatgaa	cggtctggtc	tttgccgacc	gcacgccgca	7740
tccagcgctg	acggaagcaa	aacaccagca	gcagtttttc	cagttccgtt	tatccgggca	7800
aaccatcgaa	gtgaccagcg	aatacctgtt	ccgtcatagc	gataacgagc	tcctgcactg	7860
gatggtggcg	ctggatggta	agccgctggc	aagcggtgaa	gtgcctctgg	atgtcgctcc	7920
acaaggtaaa	cagttgattg	aactgcctga	actaccgcag	ccggagagcg	ccgggcaact	7980
ctggctcaca	gtacgcgtag	tgcaaccgaa	cgcgaccgca	tggtcagaag	ccgggcacat	8040
cagcgcctgg	cagcagtggc	gtctggcgga	aaacctcagt	gtgacgctcc	ccgccgcgtc	8100
ccacgccatc	ccgcatctga	ccaccagcga	aatggatttt	tgcatcgagc	tgggtaataa	8160
gcgttggcaa	tttaaccgcc	agtcaggctt	tctttcacag Page		gcgataaaaa	8220

acaactgctg acgccgctgc gcgatcagtt cacccgtgca ccgctggata acgacattgg	8280
cgtaagtgaa gcgacccgca ttgaccctaa cgcctgggtc gaacgctgga aggcggcggg	8340
ccattaccag gccgaagcag cgttgttgca gtgcacggca gatacacttg ctgatgcggt	8400
gctgattacg accgctcacg cgtggcagca tcaggggaaa accttattta tcagccggaa	8460
aacctaccgg attgatggta gtggtcaaat ggcgattacc gttgatgttg aagtggcgag	8520
cgatacaccg catccggcgc ggattggcct gaactgccag ctggcgcagg tagcagagcg	8580
ggtaaactgg ctcggattag ggccgcaaga aaactatccc gaccgcctta ctgccgcctg	8640
ttttgaccgc tgggatctgc cattgtcaga catgtatacc ccgtacgtct tcccgagcga	8700
aaacggtctg cgctgcggga cgcgcgaatt gaattatggc ccacaccagt ggcgcggcga	8760
cttccagttc aacatcagcc gctacagtca acagcaactg atggaaacca gccatcgcca	8820
tctgctgcac gcggaagaag gcacatggct gaatatcgac ggtttccata tggggattgg	8880
tggcgacgac tcctggagcc cgtcagtatc ggcggaattc cagctgagcg ccggtcgcta	8940
ccattaccag ttggtctggt gtcaaaaata ataataaccg ggcagggggg atccggagct	9000
tatcgcagat caatgatcgc tgtacaatct ggaaatattg aaatatgtag cacactactt	9060
aaaaaaaata aaatgtccag aactgggaaa aattgatctt gccagctgta attcatggta	9120
gaaaagaagt gctcaggcta cttttcaaca aaggagcaga tgtaaactac atctttgaaa	9180
gaaatggaaa atcatatact gttttggaat tgattaaaga aagttactct gagacacaaa	9240
agaggtagct gaagtggtac tctcaaaggt acgtgactaa ttagctataa aaaggatccg	9300
gtaccctcga gtctagaatc gatcccgggt taattaatta gttattagac aaggtgaaaa	9360
cgaaactatt tgtagcttaa ttaattagag cttctttatt ctatacttaa aaagtgaaaa	9420
taaatacaaa ggttcttgag ggttgtgtta aattgaaagc gagaaataat cataaattat	9480
ttcattatcg cgatatccgt taagtttgta tcgta	9515
<210> 22 <211> 9515 <212> DNA <213> Artificial <220> <223> ALVAC	
<400> 22 taccgcgggg gcgtccagga gcgcaagccc gaagacgaac ggcgccgctg ccgctgaaaa	60

120 180

240

cggcgtcgag tccttcttac acagacactt ttgatgttcg accggcattt gacgaaacac

ttattattag cagttacggt cacatgaagt caaccacgtg ttttatgaca gtaaacgagt ttcgaccgac ggtttacaaa ccactacttc cgtctttact taccgagttt tgaaccctct

tctcgttttg	gacttccccg	ggaggtcttg	03-17 SEQ L ttactacccg		actgacgcta	300
		gttcgtcacg				360
		tctgttcctg				420
		tgattttgtg				480
		cttcctctag				540
		cttattacaa				600
		cctgtatcga				660
		aagattcttt				720
		aaattaaata				780
		acaataacga				840
		ataaaggtct				900
		ctacgtatcc			•	960
		aaaataacta		_		1020
		ttattacttt				1080
		gcgagatatg				1140
		tatacttttg				1200
		tctacttctt				1260
		ttaccgctga				1320
*		ttttggttta				1380
		aggatcaaat				1440
		gacccttttg				1500
cgtgtagggg	gaaagcggtc	gaccgcatta	tcgcttctcc	gggcgtggct	agcgggaagg	1560
		accgcttacc				1620
		gtataccacg				1680
		gggcggttgt				1740
gagggccgta	ggcgaatgtc	tgttcgacac	tggcagaggc	cctcgacgta	cacagtctcc	1800
aaaagtggca	gtagtggctt	tgcgcgctct	gctttcccgg	agcactatgc	ggataaaaat	1860
atccaattac	agtactatta	ttaccaaaga	atctgcagtc	caccgtgaaa	agccccttta	1920
cacgcgcctt	ggggataaac	aaataaaaag	atttatgtaa	gtttatacat	aggcgagtac	1980
tctgttattg	ggactattta	cgaagttatt	ataactttt	ccttctcata	ctcataagtt	2040
gtaaaggcac	agcgggaata	agggaaaaaa	cgccgtaaaa	cggaaggaca	aaaacgagtg	2100
ggtctttgcg	accactttca	ttttctacga	cttctagtca Page		tcacccaatg	2160

tagcttgacc	tagagttgtc	gccattctag	gaactctcaa	aagcggggct	tcttgcaaaa	2220
ggttactact	cgtgaaaatt	tcaagacgat	acaccgcgcc	ataatagggc	ataactgcgg	2280
cccgttctcg	ttgagccagc	ggcgtatgtg	ataagagtct	tactgaacca	actcatgagt	2340
ggtcagtgtc	ttttcgtaga	atgcctaccg	tactgtcatt	ctcttaatac	gtcacgacgg	2400
tattggtact	cactattgtg	acgccggttg	aatgaagact	gttgctagcc	tcctggcttc	2460
ctcgattggc	gaaaaaacgt	gttgtacccc	ctagtacatt	gagcggaact	agcaaccctt	2520
ggcctcgact	tacttcggta	tggtttgctg	ctcgcactgt	ggtgctacgg	acatcgttac	2580
cgttgttgca	acgcgtttga	taattgaccg	cttgatgaat	gagatcgaag	ggccgttgtt	2640
aattatctga	cctacctccg	cctatttcaa	cgtcctggtg	aagacgcgag	ccgggaaggc	2700
cgaccgacca	aataacgact	atttagacct	cggccactcg	cacccagagc	gccatagtaa	2760
cgtcgtgacc	ccggtctacc	attcgggagg	gcatagcatc	aatagatgtg	ctgcccctca	2820
gtccgttgat	acctacttgc	tttatctgtc	tagcgactct	atccacggag	tgactaattc	2880
gtaaccattg	acagtctggt	tcaaatgagt	atatatgaaa	tctaactaaa	ttttgaagta	2940
aaaattaaat	tttcctagat	ccacttctag	gaaaaactat	tagagtactg	gttttaggga	3000
attgcactca	aaagcaaggt	gactcgcagt	ctggggcatc	ttttctagtt	tcctagaaga	3060
actctaggaa	aaaaagacgc	gcattagacg	acgaacgttt	gtttttttgg	tggcgatggt	3120
cgccaccaaa	caaacggcct	agttctcgat	ggttgagaaa	aaggcttcca	ttgaccgaag	3180
tcgtctcgcg	tctatggttt	atgacaggaa	gatcacatcg	gcatcaatcc	ggtggtgaag	3240
ttcttgagac	atcgtggcgg	atgtatggag	cgagacgatt	aggacaatgg	tcaccgacga	3300
cggtcaccgc	tattcagcac	agaatggccc	aacctgagtt	ctgctatcaa	tggcctattc	3360
cgcgtcgcca	gcccgacttg	cccccaagc	acgtgtgtcg	ggtcgaacct	cgcttgctgg	3420
atgtggcttg	actctatgga	tgtcgcactc	gatactcttt	cgcggtgcga	agggcttccc	3480
tctttccgcc	tgtccatagg	ccattcgccg	tcccagcctt	gtcctctcgc	gtgctccctc	3540
gaaggtcccc	ctttgcggac	catagaaata	tcaggacagc	ccaaagcggt	ggagactgaa	3600
ctcgcagcta	aaaacactac	gagcagtccc	cccgcctcgg	ataccttttt	gcggtcgttg	3660
cgccggaaaa	atgccaagga	ccggaaaacg	accggaaaac	gagtgtacaa	gaaaggacgc	3720
aataggggac	taagacacct	attggcataa	tggcggaaac	tcactcgact	atggcgagcg	3780
gcgtcggctt	gctggctcgc	gtcgctcagt	cactcgctcc	ttcgccttct	cgcgggttat	3840
gcgtttggcg	gagaggggcg	cgcaaccggc	taagtaatta	cgtcgaccgt	gctgtccaaa	3900
gggctgacct	ttcgcccgtc	actcgcgttg	cgttaattac	actcaatcga	gtgagtaatc	3960
cgtggggtcc	gaaatgtgaa	atacgaaggc	cgagcataca	acacacctta	acactcgcct	4020

attottaaao	tatatccttt		03-17 SEQ L gtactaatgc		accaacatta	4080
			tcgatattta			4140
_		_	ggattcgcta	_		4200
			ttgtattaaa			4260
	_		_		_	4320
			ttatagcatt	_	_	
		_	tgacaatagc		-	4380
			cataaattct			4440
			tagcaatgta	_		4500
taaactgtct	acattgaatt	atccacgttt	ttacaattta	ttgtcgtaag	atagccttct	4560
atcctatggt	caatataata	tgtttttagt	gaccaaccta	ttttgtctaa	gacgttataa	4620
gcattttcta	cttctaatga	cgcttaaaca	tttgatactg	ttatttttcg	gtaaatagag	4680
ttgctgtagc	acattaagaa	ggtacaaaat	acatacacaa	agtctataat	actctaatga	4740
tatttgaaaa	acatatgaat	ataaggcatt	tgatataatt	agtacttctt	ttactttttc	4800
atatcttcga	caagtgctcg	ccaacaactt	ttgttgtttt	aatatgtaag	ttctaccgaa	4860
tgtatatgca	gacactccga	tagtacctat	tactgttacg,	tagagattta	tccaaaaacc	4920
tgttacctaa	gctgggattg	tgccttatac	catgagatgt	tagaggagaa	ctttaccgac	4980
attacaagtt	cttatggctc	cgatatttt	agaactactc	catacctcga	tttggacatc	5040
aatgacttac	gtgttgaaga	acagacgtac	tacgccacaa	ctctctgctg	atgttttatc	5100
actttctaga	caacttctta	ttgatacatt	tgttacaaga	aatgtcgcct	ccgaaatgag	5160
gaaacacaaa	ccgtcgaatg	gaattgtttc	aattaaacca	atttgaagat	aaccgagtaa	5220
gccgcctaca	tctataaagt	ttgtgcctag	ccaattgagg	agatgtatat	cggcatagtt	5280
tatttttaaa	ttgttaccaa	tttgaagata	acttgtttcc	acgactatga	ctgaacgacc	5340
tattgtaccc	tacatgagga	aattactagc	gacatgttag	acctttataa	ctttatacat	5400
cgtgtgatga	attttttta	ttttacaggt	cttgaccctt	tttaactaga	acggtcgaca	5460
ttaagtacca	tcttttcttc	acgagtccga	tgaaaagttg	tttcctcgtc	tacatttgat	5520
gtagaaactt	tctttacctt	ttagtatatg	acaaaacctt	aactaatttc	tttcaatgag	5580
actctgtgtt	ttctccatcg	acttcaccat	gagagtttcc	atgcactgat	taatcgatat	5640
ttttcctagg	atctcctagt	aataaattgc	atttgattta	ccttttcgat	aaatgtccat	5700
gtatgccaca	aaagacctta	gtttactaag	actaaaactc	ctaaaatagt	tatgttatta	5760
ctgtcacgat	tgaccatttt	ttctttcgtt	tgttaatagt	accgattgtt	aaaaataata	5820
taaacatcat	acgtatcacc	agaaatgcaa	agaaataaat	ttcaattaca	caattctaat	5880
ttacctcatt	aacctagggg	gtagctaccc	cttaagtgac		atgttgcagc	5940
			Page	26		

actgaccctt	ttgggaccgc	aatgggttga	attagcggaa	cgtcgtgtag	ggggaaagcg	6000
gtcgaccgca	ttatcgcttc	tccgggcgtg	gctagcggga	agggttgtca	acgcgtcgga	6060
cttaccgctt	accgcgaaac	ggaccaaagg	ccgtggtctt	cgccacggcc	tttcgaccga	6120
cctcacgcta	gaaggactcc	ggctatgaca	gcagcagggg	agtttgaccg	tctacgtgcc	6180
aatgctacgc	gggtagatgt	ggttgcattg	gatagggtaa	tgccagttag	gcggcaaaca	6240
agggtgcctc	ttaggctgcc	caacaatgag	cgagtgtaaa	ttacaactac	tttcgaccga	6300
tgtccttccg	gtctgcgctt	aataaaaact	accgcaattg	agccgcaaag	tagacaccac	6360
gttgcccgcg	acccagccaa	tgccggtcct	gtcagcaaac	ggcagactta	aactggactc	6420
gcgtaaaaat	gcgcggcctc	ttttggcgga	gcgccactac	cacgacgcaa	cctcactgcc	6480
gtcaatagac	cttctagtcc	tatacaccgc	ctactcgccg	taaaaggcac	tgcagagcaa	6540
cgacgtattt	ggctgatgtg	tttagtcgct	aaaggtacaa	cggtgagcga	aattactact	6600
aaagtcggcg	cgacatgacc	tccgacttca	agtctacacg	ccgctcaacg	cactgatgga	6660
tgcccattgt	caaagaaata	ccgtcccact	ttgcgtccag	cggtcgccgt	ggcgcggaaa	6720
gccgccactt	taatagctac	tcgcaccacc	aatacggcta	gcgcagtgtg	atgcagactt	6780
gcagcttttg	ggctttgaca	cctcgcggct	ttagggctta	gagatagcac	gccaccaact	6840
tgacgtgtgg	cggctgccgt	gcgactaact	tcgtcttcgg	acgctacagc	caaaggcgct	6900
ccacgcctaa	cttttaccag	acgacgacga	cttgccgttc	ggcaacgact	aagctccgca	6960
attggcagtg	ctcgtagtag	gagacgtacc	agtccagtac	ctactcgtct	gctaccacgt	7020
cctataggac	gactacttcg	tcttgttgaa	attgcggcac	gcgacaagcg	taataggctt	7080
ggtaggcgac	accatgtgcg	acacgctggc	gatgccggac	atacaccacc	tacttcggtt	7140
ataactttgg	gtgccgtacc	acggttactt	agcagactgg	ctactaggcg	cgaccgatgg	7200
ccgctactcg	cttgcgcatt	gcgcttacca	cgtcgcgcta	gcattagtgg	gctcacacta	7260
gtagaccagc	gaccccttac	ttagtccggt	gccgcgatta	gtgctgcgcg	acatagcgac	7320
ctagtttaga	cagctaggaa	gggcgggcca	cgtcatactt	ccgccgcctc	ggctgtggtg	7380
ccggtggcta	taataaacgg	gctacatgcg	cgcgcaccta	cttctggtcg	ggaagggccg	7440
acacggcttt	accaggtagt	tttttaccga	aagcgatgga	cctctctgcg	cgggcgacta	7500
ggaaacgctt	atgcgggtgc	gctacccatt	gtcagaaccg	ccaaagcgat	ttatgaccgt	7560
ccgcaaagca	gtcatagggg	caaatgtccc	gccgaagcag	accctgaccc	acctagtcag	7620
cgactaattt	atactacttt	tgccgttggg	caccagccga	atgccgccac	taaaaccgct	7680
atgcggcttg	ctagcggtca	agacatactt	gccagaccag	aaacggctgg	cgtgcggcgt	7740
aggtcgcgac	tgccttcgtt	ttgtggtcgt	cgtcaaaaag	gtcaaggcaa	ataggcccgt	7800

03-17 SEQ LIST.ST25 7860 ttggtagctt cactggtcgc ttatggacaa ggcagtatcg ctattgctcg aggacgtgac 7920 ctaccaccgc gacctaccat tcggcgaccg ttcgccactt cacggagacc tacagcgagg 7980 tgttccattt gtcaactaac ttgacggact tgatggcgtc ggcctctcgc ggcccgttga gaccgagtgt catgcgcatc acgttggctt gcgctggcgt accagtcttc ggcccgtgta 8040 8100 gtcgcggacc gtcgtcaccg cagaccgcct tttggagtca cactgcgagg ggcggcgcag 8160 ggtgcggtag ggcgtagact ggtggtcgct ttacctaaaa acgtagctcg acccattatt 8220 cgcaaccgtt aaattggcgg tcagtccgaa agaaagtgtc tacacctaac cgctattttt 8280 tgttgacgac tgcggcgacg cgctagtcaa gtgggcacgt ggcgacctat tgctgtaacc 8340 gcattcactt cgctgggcgt aactgggatt gcggacccag cttgcgacct tccgccgccc 8400 ggtaatggtc cggcttcgtc gcaacaacgt cacgtgccgt ctatgtgaac gactacgcca 8460 cgactaatgc tggcgagtgc gcaccgtcgt agtccccttt tggaataaat agtcggcctt 8520 ttggatggcc taactaccat caccagttta ccgctaatgg caactacaac ttcaccgctc 8580 gctatgtggc gtaggccgcg cctaaccgga cttgacggtc gaccgcgtcc atcgtctcgc 8640 ccatttgacc gagcctaatc ccggcgttct tttgataggg ctggcggaat gacggcggac 8700 aaaactggcg accctagacg gtaacagtct gtacatatgg ggcatgcaga agggctcgct tttgccagac gcgacgccct gcgcgcttaa cttaataccg ggtgtggtca ccgcgccgct 8760 gaaggtcaag ttgtagtcgg cgatgtcagt tgtcgttgac tacctttggt cggtagcggt 8820 agacgacgtg cgccttcttc cgtgtaccga cttatagctg ccaaaggtat acccctaacc 8880 8940 accgctgctg aggacctcgg gcagtcatag ccgccttaag gtcgactcgc ggccagcgat 9000 ggtaatggtc aaccagacca cagtttttat tattattggc ccgtcccccc taggcctcga 9060 atagcgtcta gttactagcg acatgttaga cctttataac tttatacatc gtgtgatgaa 9120 ttttttttat tttacaggtc ttgacccttt ttaactagaa cggtcgacat taagtaccat 9180 cttttcttca cgagtccgat gaaaagttgt ttcctcgtct acatttgatg tagaaacttt ctttaccttt tagtatatga caaaacctta actaatttct ttcaatgaga ctctgtgttt 9240 9300 tctccatcga cttcaccatg agagtttcca tgcactgatt aatcgatatt tttcctaggc 9360 catgggagct cagatcttag ctagggccca attaattaat caataatctg ttccactttt 9420 gctttgataa acatcgaatt aattaatctc gaagaaataa gatatgaatt tttcactttt 9480 atttatgttt ccaagaactc ccaacacaat ttaactttcg ctctttatta gtatttaata 9515 aagtaatagc gctataggca attcaaacat agcat